

CLAIMS

1. Composition comprising fluoropolymers dispersed in flame retardants.
2. Composition, consisting of particles comprising one or more fluoropolymers and flame retardants.
3. Composition according to claim 1, wherein the fluoropolymer is enveloped by the flame retardant.
4. Composition according to claim 1 or 2, wherein the fluoropolymers are chosen from the group consisting of polytetrafluoroethylene (PTFE); poly(hexafluoroethylene), poly(tetrafluoroethylene-hexafluoroethylene), and poly(tetrafluoroethylene-ethylene-propylene).
5. Composition according to claim 1 or 2, wherein the flame retardants are organic, bromine compounds and/or organic phosphorus compounds.
6. Composition according to claim 5, wherein the flame retardants are chosen from the group consisting of brominated epoxy resins, high molecular weight brominated epoxy resins, modified brominated epoxy resins (e.g., tribromophenol modified medium molecular weight

brominated epoxy resin), low molecular weight brominated epoxy resins, tetrabromobisphenol bis (2,3-dibromopropyl ether) (e.g. FR-720 produced by DSBG), partly end-capped brominated epoxy resins with fatty acid, tris(tribromophenyl) triazine (e.g. FR-245 produced by DSBG), bromophenyltrimethylindane (e.g. FR-1808 produced by DSBG), brominated polyacrylate, brominated polycarbonate, phenoxy-terminated carbonate oligomer of tetrabromobisphenol A and related, polypentabromobenzyl acrylate (e.g. FR-1025 produced by DSBG), brominated acrylate monomer (e.g. FR-1025M produced by DSBG), brominated styrene and their homo- and co-polymers, tetrabromobisphenol A, brominated diphenylethane, decabromodiphenyl oxide, tris(tribromoneopentyl) phosphate (e.g. FR-370 produced by DSBG), alkyl phosphinic acid salts, phosphate esters, phosphonate esters, and their mixtures.

7. Composition according to claim 1 or 2, containing an amount of fluoropolymer from 0.1 wt% to 60 wt%.

8. Composition according to claim 7, containing an amount of fluoropolymer from 0.5 wt% to 20 wt%.

9. Composition according to claim 1 or 2, wherein the flame retardant has a melting point below 300 °C.

10. Composition according to claim 1 or 2, wherein the flame retardant is obtained from precursors having a melting point below 300 °C.

11. Composition according to any one of claims 1 to 10, further comprising additional additives chosen from the group consisting of ultraviolet and light stabilizers, UV screeners, UV absorbers, release agents, lubricants, colorants, plasticizers, fillers, blowing agents, heat stabilizers, antioxidants, reinforcement additives such as fillers, impact modifiers, and processing aids.

12. Composition according to claim 1, wherein the flame retardants or the flame retardant precursors have a melt viscosity lower than 10000 cp.

13. Composition according to claim 12, wherein the flame retardants or the flame retardant precursors have a melt viscosity lower than 2000 cp.

14. Process for making a composition according to claim 2, which comprises melting a flame retardant, mixing the fluoropolymer with said molten flame retardant, allowing the mixture to solidify and particulating the solidified mixture.

15. Process for making a composition according to claim 2, which comprises providing flame retardant precursors in molten condition,

mixing said precursors with a fluoropolymer and optionally with a catalyst, reacting said precursors to form a molten flame retardant mixed with said fluoropolymer, allowing the mixture to solidify and particulating the solidified mixture.

16. Thermoplastic composition comprising a thermoplastic polymer matrix and an additive composition according to any one of claims 1 to 13.

17. Thermoplastic composition according to claim 16, wherein the polymer matrix comprises at least one polymer selected from the group consisting of polystyrene, impact polystyrene, styrene copolymers, acrylonitrile butadiene styrene terpolymers (ABS), alloys of ABS such as polycarbonate/ABS, alloys of polystyrene such as polyphenylene oxide/polystyrene, polycarbonates, polycarbonate alloys with PBT or polyamide, polyesters such as polybutylene terephthalate (PBT) and polyethylene terephthalate (PET), polyamide resins such as polyamide 6 and 66, styrene acrylonitrile copolymer (SAN), polyphenylene ether (PPE), polyester carbonate and blends of the aforesaid polymers.

18. Process for making a thermoplastic composition according to claim 16, which comprise the steps of compounding the polymer matrix with the additive composition and optionally with other additives.

19. Process according to claim 18, wherein the polymer matrix and the additive composition, and optionally the other additives, are compounded in an apparatus selected from the group consisting of extruders, batch mixers and internal mixers.

20. Plastic articles made by extruding or molding a thermoplastic composition according to claim 16.

21. Master batch containing the composition of claim 1 in a thermoplastic carrier.

22. Composition according to claim 1 or 2, substantially as described and exemplified.

23. Thermoplastic composition according to claim 16, substantially as described and exemplified.

24. Process for making a thermoplastic composition according to claim 18, substantially as described and exemplified.